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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/787,735	10/15/2001	Johan Lidman	P01,0065	6548

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SCHIFF HARDIN, LLP  
PATENT DEPARTMENT  
6600 SEARS TOWER  
CHICAGO, IL 60606-6473

EXAMINER
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OROPEZA, FRANCES P

ART UNIT	PAPER NUMBER
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3762

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DATE MAILED: 03/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/787,735

Applicant(s)

LIDMAN ET AL.

Examiner

Frances P. Oropeza

Art Unit

3762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10/15/01 (Initial Filing).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 14-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-16 and 21-26 is/are rejected.
- 7) ☐ Claim(s) 17-20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date g.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 14, 15, 21 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Mann et al. (US 5040535). Mann et al disclose a cardiac pacemaker comprising a piezoelectric sensor (12), a circuit for detecting positive and negative charges using full wave rectification (amplifier (30) and rectifier (32) in the form of a voltage controller oscillator (46)), an integrator circuit (34), filtering to optimize signal quality, a control logic circuits, read as the evaluation unit, to obtain information from the sensor, and an activity sensing unit, determining the count time interval, to determine if load changes are representative of physical activity (abstract; col. 1 @ 60-65; col. 2 @ 21-25; col. 2 @ 60 – col.3 @ 9; col. 4 @ 28 – col. 5 @ 54; col. 8 @ 38-49; col. 8 @ 66 – col. 9 @ 18; col. 10 @ 27-29).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 16 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mann et al. (US 5040535) in view of Lidman et al. (US 5865760). As discussed in paragraph 2 of this action, Mann et al. disclose the claimed invention except for the integrator including a combining unit and a unit for removing the integration contribution (claim 16) and low-pass filter / signal comparison to threshold to determine orientation and activity level (claims 22-24).

As to the combining unit, Mann et al. teach piezoelectric signal processing having the integrator include a combining unit and a unit for removing the integration contribution for the purpose of accurately attenuating the sensed signal. It would have been obvious to one having ordinary skill in the art at the time of the invention to have used a combining unit and a unit for removing the integration contribution in the Mann et al. system in order to provide an optimum signal so the pacemaker is appropriately modified based on an accurate reading of the patient's current condition (col. 4 @ 23-35; col. 5 @ 52 – col. 6 @ 15).

As to the low-pass filter / signal comparison, modified Mann et al. teach activity signal analysis using low-pass signal filtering for the purpose of determining orientation and activity

level. It would have been obvious to one having ordinary skill in the art at the time of the invention to have used low-pass filter / signal comparison to threshold to determine orientation and activity level in the modified Mann et al. system in order to provide optimum signal input so the rate of the pacemaker is appropriately modified based on an accurate reading of the patient's current condition (col. 4 @ 40 – col. 5 @ 32; col. 5 @ 52 – col. 6 @ 15).

5. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mann et al. (US 5040535) in view of Barreras et al. (US 5318596). As discussed in paragraph 2 of this action, Mann et al. disclose the claimed invention except for load changes being reported in a single direction.

Barreras et al. teaches pacemaker regulation using load changes in a single direction as sensed by a piezoelectric sensor (34) for the purpose of determining patient activity. It would have been obvious to one having ordinary skill in the art at the time of the invention to have measured load changes in a single direction in the Mann et al. system in order to enable the physician to correlate patient's activity/ motion patterns in a single direction with patient activity levels, hence enabling the sensed motion to regulate the rate and intervals of the implanted pacemaker (col. 7 @ 20-42).

***Allowable Subject Matter***

6. Claims 17-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Specification***

7. The substitute specification, filed 10/15/01, has been entered into the record.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frances P. Oropeza whose telephone number is (703) 605-4355.

The examiner can normally be reached Monday through Friday from 9 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela D. Sykes, can be reached on (703) 308-5181.

The telephone number for facsimiles for regular communication and After Final communications is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist whose telephone number is (703) 308-0858.

Frances P. Oropeza  
Patent Examiner  
Art Unit 3762

*FPO*  
*3/3/04*

*Angela D. Sykes*

**ANGELA D. SYKES  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3700**